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## **The Role of Quality Indicators in the Oregon Quality Education Model**

**August 18, 2000**

The purpose of the Quality Indicators (formerly the Intangibles) is to establish the presumed level at which the Prototype Schools are functioning relative to a range of factors that are closely associated with educational achievement. These factors, or indicators, do not have direct costs associated with them, for the most part. However, they have a very strong relationship with the degree to which the funds allocated to and expended by schools result in improved student achievement. Researchers have been verifying the importance of these factors for nearly three decades. Budget makers, on the other hand, tend not to include these indicators when they are determining how much money will be made available to schools, nor to consider their importance in determining how much effect the funds allotted will have on student learning.

The Quality Education Model incorporates these Quality Indicators as a way of acknowledging their importance. Eventually it may be possible to collect enough data from schools to know how the school system as a whole functions in relation to these factors. However, information exists only in fragmentary and incomplete forms currently. Therefore, the task of making appropriate assumptions about the level at which the Prototype Schools are functioning relative to the Quality Indicators will require the exercise of informed judgment and reasonable supposition this first time. It is nonetheless important to establish these assumptions if they are ever to be developed more fully and incorporated more systematically into the Quality Education Model.

The following section considers in turn many of the factors that are generally considered to be associated with healthy organizational functioning and enhanced student learning. These Quality Indicators were developed from several sources, including the first version of the Quality Education Model, extensive reviews of the literature on school quality, and contributions by members of the QEM review panels.

Each Quality Indicator is presented with a brief description of the criteria that might be employed to operationalize the Indicator and that help define the means to assess it. For each Indicator, the following issues are then considered in order:

1. Its potential to account for variance in student learning. To what degree does it contribute to student achievement? This is reported in the form of the general categories "high" and "moderate." Any factor that did not

have at least a moderate impact on student learning as demonstrated by a body of research was not included.

2. Examples of some potential means to assess this Quality Indicator are offered primarily to illustrate the ways in which data could be gathered about this factor in the future.
3. The ways in which this factor is currently assessed are described along with some of the issues involved in acquiring or aggregating the data that do exist currently. In many cases, the existing data are not appropriate for making an assumption about the Quality Indicator's level of efficacy in Oregon schools.
4. The capacity of the system to gather data on this Quality Indicator is analyzed and suggestions for future methods of data collection are offered.
5. A description of the level at which the Prototype Schools are assumed to be operating in relation to this Quality Indicator and a rationale for this rating.
6. The research base that supports the inclusion and validity of this Quality Indicator is presented in a very abbreviated form, and includes syntheses of research on the topic, important studies, and other publications that have been influential in establishing the importance and credibility of this factor.

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### **Quality Indicator: *Teacher quality***

#### **Criteria:**

1. Teachers have adequate content knowledge to teach their areas or subjects
2. Teachers have been prepared properly to teach and assess state standards

#### **I. Potential to Account for Variance in Student Learning**

High. A great deal of evidence points to teacher quality as perhaps the single most important variable relative to student learning. It is certainly problematic to assess with current information systems and is potentially prone to abuse, but if a fair and safe way can be found to utilize these data, this measure alone could account for a significant amount of the difference between the maximum amount of learning that could be expected from the system and the amount of learning that actually occurs.

#### **II. Potential Means to Assess**

1. Statistical analysis of student performance on state assessments

2. Inventory of demonstrated skills (observed or documented abilities directly related to successful teaching and learning)
3. Performance on Praxis examination by graduates of preparation programs

### **III. How Currently Assessed**

Indirect measures are currently used. These include certification knowledge tests, years of experience, classes taken in area of endorsement, college major, additional college credits taken, graduate degrees held. The research on these measures show limited relationship to student achievement, beyond some very basic relationships. ODE collects information on Teachers teaching in area of certification only, teachers average years of experience, teachers average years of experience in district.

### **IV. Current Capacity to Assess**

Limited. Information exists on most of the indirect measures cited above. The information is not currently in one database. The DBI contains information on average years of teacher experience and percent of teacher with a master's degree and number of classes taught by mis-assigned teachers. ODE requires that information on "staff characteristics" be included in school self-evaluations. The state assessment system is capable of determining general relationships between teacher characteristics and student performance, but such studies have not been conducted nor are the results likely to be particularly precise.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

Oregon is blessed with highly qualified teachers with tremendous ability to educate a wide range of children. It is assumed that the Prototype Schools have teachers who generally reflect this high level of quality. However, shortages exist in some key areas, causing teachers to be assigned out of their areas of expertise or endorsement. Examples include special education, bilingual education, science courses such as physics, advanced mathematics courses, with more difficulties in districts outside the major urban areas. These difficulties are assumed to be more intense at the secondary than the elementary level.

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**Quality Indicator: *Demonstrably effective instructional programs and methods***

**Criteria:**

1. Teachers demonstrate mastery of a range of instructional strategies to enable all students to meet standards

2. Flexible grouping strategies with frequent regrouping based on accurate data on student knowledge and skill
3. Instructional time is a high percentage of the total time available during the day and year
4. The time devoted to instruction is utilized effectively
5. Technology used to enhance learning efficiency
6. Homework is used to supplement classroom learning or practice skills, not to introduce new skills or as busywork
7. Homework is not done in class as a substitute for instruction
8. Homework is coordinated among teachers and subjects to ensure students are capable of completing assigned homework in a quality fashion
9. Decisions about instructional materials, texts, instructional programs are made with reference to the potential of these materials and programs to enhance student learning and to research or other evidence to that effect.

#### **I. Potential to Account for Variance in Student Learning**

High. A great deal of research has been conducted on these topics over the past 25 years yielding meta-analyses that begin to illuminate more and less effective forms of instruction.

Effective grouping strategies have been shown for more than 80 years to result in enhanced achievement for all students, both high and low performers. The effects have been noted consistently in reading and math instruction.

While the eventual effect of technology on student learning may prove to be high, current uses result in moderate effects on achievement and then only when used in ways demonstrated to be effective.

Effective homework practices can have a moderate effect on student learning when properly implemented. Homework is an example of an area where gains in student learning can be achieved without increases in schools expenditures or teacher workload.

Time is the currency of education. The ability to allocate and utilize time effectively is potentially one of the most powerful tools to increase student learning without increasing expenditures.

#### **II. Potential Means to Assess**

The focus of assessing school practices in this area should be primarily on reading and mathematics, with science and social science given somewhat less emphasis. This reflects the state of the research on these subject areas, with much more evidence on what constitutes effective reading and math programs and teaching methods than the other two subjects.

School practices can be assessed through self-reports of programs and teaching practices from a template provided by the state and augmented by schools. Teams that visited schools would corroborate the self-reports via classroom visits.

1. School self-reports on math and reading grouping practices
2. Observations at selected Oregon schools
3. Time spent engaged in technology-based learning tasks, per pupil
4. Incorporation of technology into lesson plans
5. Technology systems (e.g., integrated learning systems) present in schools
6. Range of technologies employed, per pupil
7. Examples of student work produced via technology scored on a common scale.
8. Written homework policy by all teachers
9. Analysis of number of minutes of homework assigned
10. Analysis of types of homework assigned
11. Report to DBI on minutes allocated to various disciplines
12. On-site visit by trained observer (e.g., retired teachers) to validate minutes allocated and to observe engaged time in classrooms
13. Logs of time allocation kept by anonymous teachers, submitted, analyzed and aggregated to infer statewide patterns of time utilization.
14. Analysis of instructional materials, text, and curricula to ascertain the evidence that it has been linked to enhanced student learning
15. Reviews of student work samples to analyze the quality of the assignment

### **III. How Currently Assessed**

Instructional programs are not currently assessed systematically. Title I is requiring schools to use research-based programs under certain circumstances. Teaching methods are currently assessed only through the personnel evaluation process, which can amount to only one or two visits by an administrator to any given teacher, at best. School self-evaluations required under the Consolidated District Improvement Plan may yield data at some schools on instructional practices.

Grouping practices are not assessed. Districts and schools do not compare student performance between classrooms or schools with distinct approaches to grouping. Some instructional methods (e.g., Success for All and Direct Instruction) have certain explicit requirements for grouping.

Technology use is typically measured currently by the ratio of students to computers. This is widely considered to be a very limited definition of technology use. The DBI contains information on computers per pupil.

ODE does currently collect information on time devoted to reading, writing, and mathematics. However, this measure indicates how time is allocated, not how it is actually utilized nor how effectively time is used for instruction. Some evidence suggests that even the current information on allocation may not be highly accurate or precise.

#### **IV. Current Capacity to Assess**

Classroom evaluations by principals could yield sufficient data for making generalizations about the state of instructional practices in Oregon, not for judging individual teachers or school buildings. Principals would need a standardized, computerized format, one that ideally would coordinate with a classroom observation instrument.

Since no systematic determinations about grouping strategies are made currently, there is no existing capacity to assess the state of practice in the schools.

Homework would be a new area for schools to compile information on their practices. Standardized definitions and reporting formats would have to be developed. However, it is an area that lends itself well to systematic reporting of data. Homework practices are not the same as homework policies. It is not enough to require homework; the tasks themselves must meet certain effectiveness criteria and be integrated with instruction appropriately.

Technology use is typically assessed in terms of computers per student, software titles held, or, occasionally, in terms of effects on reading or math skills (generally in the case of Title I programs that have dedicated technology labs with reading or math software). Neither the state nor most school districts gather any other information about technology use. However, given the interest most communities have in the ways technology is being utilized in its schools, it would seem that more sophisticated ways of assessing the effects of technology on learning will be implemented eventually.

Amount and type of homework assigned is not currently tracked by any educational agency and by very few schools.

The current requirements to report time allocations can be improved in order to ensure the accuracy of the allocation reports. Observers would have to be trained to use common observation tools and consistent analytic techniques. However, teachers are quite capable of logging classroom time allocation if provided standardized instrumentation.

## V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator

This is a complex, multi-dimensional indicator. When school programs are compared against a standard of effectiveness that can be validated externally, they tend to be found wanting. Many adopted curricula and texts have no demonstrated ability to lead to greater student learning. Elementary schools have more evidence available to them regarding effective instructional techniques and approaches. As a result, more elementary schools are able to make decisions that take into account the effectiveness of the materials they utilize and the strategies they adopt. Secondary schools are less likely to have access to such information and in general are not as attuned to making decisions or adapting methods based on available research on effective instructional programs.

This indicator is an area where considerable gains in student learning might be achieved within the Prototype Schools if the resources available for professional development are put to good use.

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**Quality Indicator: Leadership that facilitates student learning**

**Criteria:**

1. Evidence that school community is focused on goals and has some sense of vision or purpose
2. Evidence that state standards are a part of the school's goals and that the school has a clear, realistic plan to enable progressively more students to meet standards over time
3. Evidence of broad-based involvement in decision making that is clearly focused on student learning
4. Evidence of a range of leadership roles present in the school community and involvement in those roles by individuals committed to enhanced student learning
5. Evidence of a healthy organizational climate and a minimum of political "in-fighting"
6. Evidence of employees being held accountable to high standards of performance

#### **I. Potential to Account for Variance in Student Learning**

High. Studies over a 20 year period consistently have found a strong association between achievement, particularly in outlier schools that outperform comparable schools, and strong leadership. Leadership can mean more than administrators, however. Teacher leadership is becoming an important component of effective schools as well.

Involvement in decision making is a potentially important indicator, but it is highly dependent on the linkage between involvement in decision making and the conditions of student learning. Simply involving more people in decision making has been shown repeatedly not to result in more student learning. Only when the decision making process supports a focus on student learning and enables the organization to design itself and allocate resources in ways that create a better environment for educating students does this Indicator have a direct effect on student learning.

#### **II. Potential Means to Assess**

1. 360° evaluation: systematic information from subordinates, supervisors, clients, and customers. Random sampling is used with larger groups. Items are standardized and focus on demonstrated behaviors associated with effective leadership, not on opinions of respondents or popularity of person being evaluated.
2. Review of school goals and content of CDIP-mandated school improvement plan.
3. Completion by school of self-report list of behaviors associated with curriculum alignment, curriculum focus, lesson focus, and instructional method focus

4. Review of school professional development program content and individual teacher professional development activities
5. Analysis of how time is allocated during the school day and year.
6. Analysis of documents from decision making groups for evidence of linkage between their areas of responsibility, their agendas, their decisions and the teaching/learning process.

### **III. How Currently Assessed**

For the most part, leadership is not currently assessed very systematically. Principals do receive evaluations from their superiors. However, the content and quality of these evaluations is highly variable.

ODE requires schools to submit school improvement plans to their districts. These school plans must contain goals that are “clearly stated, focused, measurable, realistic and based on improving student achievement and performance in content standard areas. This information can provide some insight into school focus.

Schools must document that they have site-based councils and the make-up of those councils, that the councils meet with prescribed regularity, and that the councils address the requirements set for them in statute.

### **IV. Current Capacity to Assess**

There is very limited current capacity to assess leadership. For such assessment to occur, systematic tools and methods would have to be developed for use statewide. Leadership will have to be operationalized in terms of some specific behaviors. Instruments that do this exist and would have to be reviewed for possible uses.

Content analysis of school improvement plans can provide an initial determination of school focus on goals and state standards. Subsequent changes in what must be included in school improvement plans could generate more information on goal orientation and school vision.

The self-evaluation process could be utilized to help schools understand better the types of involvement in decision making that make a difference and how their methods were consistent or inconsistent with these best practices.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

There is little dispute that Oregon schools are well managed. There is perhaps a wider range of opinion on the quality of school leadership. The assumption about the level of leadership in the Prototype Schools reflects this range of opinion. Leadership as defined by this indicator is more than

just the actions of the principal; it is a reflection of an environment in which leadership is exercised broadly and appropriately to solve problems and improve practices. Set against this standard, the assumption is that leadership in Prototype Schools can be improved in ways that lead to enhanced student learning.

## VI. Research and Literature Base

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## **Quality Indicator: *Parental/community involvement***

### **Criteria:**

1. Evidence of extensive communication with parents and community
2. Evidence of influence by parents and community in the functioning and programs of the school
3. Evidence of positive attitude toward school by parents and community and a sense of belonging and ownership of the school by these groups
4. Range of adults present in the school in a variety of roles including licensed teachers, paraprofessionals, aides, parent volunteers, senior citizens, college students, members of business community
5. Tutoring and mentoring programs to provide one-on-one assistance to young people with special needs
6. Someone in the school with responsibility to coordinate and maximize adult resources available in the school

### **I. Potential to Account for Variance in Student Learning**

High. Parental and community involvement are important on a number of levels, not all of which are reflected in student performance on state assessments. Such involvement is important to the notion of a quality education. Parental involvement has been shown to be important at all grade levels and in particular for students with learning disabilities.

### **II. Potential Means to Assess**

1. Classroom involvement measure
2. General school involvement measure
3. Parent Conference Night attendance measure
4. Number of students interacting with community members
5. Programs that allow interaction between school and community
6. Logging the number and type of adults who provide service to the school in ways that benefit students directly
7. Developing a new measure of the amount of time adults spend with children within a school and comparing results on state assessments across schools

### **III. How Currently Assessed**

The DBI does not contain any information currently on parent/community involvement. Individual districts and schools keep track of volunteer hours. The Consolidated District Improvement Process requires parental

and community involvement in the setting of school goals. Site councils must contain a majority of non-educators.

#### **IV. Current Capacity to Assess**

There are no widely used, standardized measures of community involvement. Measures utilized in individual buildings and districts would provide a logical starting point for developing state-wide measures. For many schools this would be a new category for data collection.

However, numerous schools do already track parent volunteer hours. Others conduct periodic surveys of parent satisfaction and perceptions. These models present a starting point for more comprehensive programs of data collection on parent and community involvement.

#### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

The Prototype Schools assume good parental participation in the elementary school with rapidly declining participation in the secondary schools. Few observers of public schools would dispute the fact that parent and community involvement in schools decline from elementary to secondary school. Most, but by no means all, elementary schools seek to accommodate parental involvement and perceive it as a multifaceted resource. Secondary schools have more difficulty conceiving how parents and community might play a constructive role in the school community beyond highly constrained roles such as booster clubs or attendance at school events. This represents another area where significant improvement could conceivably be made in ways that made Oregon schools more effective.

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**Quality Indicator:** *Students enter kindergarten and each subsequent benchmark level ready to learn academic curriculum appropriate to that level*

**Criteria:**

1. When measured at the beginning of kindergarten, third, fifth, eighth, and tenth grade, students demonstrate skill and knowledge levels adequate to ensure they have the potential to reach prescribed benchmarks by the end of the benchmark year.
2. Adequate diagnostic information exists for each student so that at any point the school can identify the student's level of functioning and can prescribe a program of improvement if necessary to enable the student to be ready to enter the next benchmark level ready to achieve the benchmark.
3. Programs exist to support students who need extra help in reaching benchmark levels.

#### **I. Potential to Account for Variance in Student Learning**

High. Readiness to learn can be closely associated with subsequent performance in school. However, this element is limited in its application to elementary schools primarily, although the effects of low skills entering kindergarten can be traced through high school for those at the extreme low end of the readiness spectrum.

#### **II. Potential Means to Assess**

1. Standard diagnostic tools to be administered to all kindergartners upon enrollment or within the first month of school that measure a) knowledge of letters (fluency based); b) early phonemic awareness. Several exist that can be adapted for this purpose, including a web-based application under development at the University of Oregon
2. A measure of vocabulary to add greater accuracy to the prediction of success
3. Similar instruments to ascertain basic mathematical awareness and skills
4. Profiles of student performance in relation to benchmarks at each grade level

#### **III. How Currently Assessed**

As noted above, the technology to diagnose reading readiness exists and is widely but inconsistently utilized. The DBI contains no information currently on reading readiness. ODE interviewed kindergarten teachers in 1997 to ascertain their views of the relationship between preschool participation and readiness to learn in kindergarten. The 1999 survey is listed as "in development."

#### **IV. Current Capacity to Assess**

This is an example of an area where assessment needs of the Quality Indicators can serve to improve professional practice. Consistent, high

quality data on statewide trends in readiness to learn can be a powerful predictive tool allowing policy and budget analysts to predict the demands on public schools for many years into the future.

#### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

One reasonable estimate of the students who enter ready to learn can be achieved by determining the proportion of students who are reaching standards at each of the school levels. The Prototype Elementary School is therefore assumed to have approximately 70 percent of its students ready to learn, while by the time these students enter the Prototype Middle School, only half may be at a level of learning consistent with the benchmark expectations for middle school, and only a third or less may enter the Prototype High School achieving at benchmark levels.

These assumptions reflect the current system, not what would occur after full implementation of the Quality Education Model over a period of multiple years.

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## **Quality Indicator: *Safe and orderly learning environment***

### **Criteria:**

1. Students are on task within their classrooms
2. Hallways and all public spaces are orderly at all times
3. Students are not fearful of attending school
4. Violent incidents are very rare and dealt with immediately and effectively
5. Parents and community view the school as being safe and orderly
6. The school cooperates with community agencies to ensure consistency in the enforcement of laws and rules and in the provision of programs for students who are disruptive influences.

### **I. Potential to Account for Variance in Student Learning**

Moderate. While not directly related to teaching, this element can be extremely important in its absence – schools without orderly learning environments seldom see consistent learning occurring. But all schools with orderly learning environments do not automatically see high rates of learning. This element can be thought of as a baseline factor – necessary but not sufficient to allow schools to function effectively.

### **II. Potential Means to Assess**

1. School-wide Evaluation Tool (SET), Horner & Sugai
2. Multi-year measure of trends in ODE reports on suspensions, tardies, incidents

3. Student, teacher, and parent perceptions via brief survey
4. Evidence of linkages with community organizations that address the needs of troubled youth

### **III. How Currently Assessed**

The Oregon School Report Card reports information on “student behavior” in broad categories of graduation and attendance rates. ODE also collects information on expulsions, “incidents” (serious and dangerous offenses committed at school), retention rates and failing students.

### **IV. Current Capacity to Assess**

The School-wide Evaluation Tool is validated and reliable and takes two hours per school to administer via a trained observer. ODE currently collects data on student behavior and incidents. A brief survey of students, parents, and teachers using standardized questions could be included in ODE School Improvement visits.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

Recent shocking incidents of school violence notwithstanding, Oregon schools are generally orderly learning environments. It is therefore reasonable to assume that the Prototype Schools are orderly learning environments for the most part, without severe problems of student discipline, violence, truancy, tardiness, disrespect, and other factors that significantly limit the ability of schools to educate students.

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**Quality Indicator:** *School-based data collection and analysis as the basis for instructional program*

**Criteria:**

1. Evidence of a planning process that utilizes data on student performance as a key element
2. Evidence of skill in the collection and analysis of data on student performance
3. Evidence of systems to collect and utilize data on student knowledge and skills
4. Evidence of direct relationship between decisions about the instructional program and data on student knowledge and skills

**I. Potential to Account for Variance in Student Learning**

Moderate. Generating and utilizing data on student performance is the prerequisite to improvements. However, the data do not guarantee that the necessary changes in practices and organizational arrangements will be made subsequently.

**II. Potential Means to Assess**

1. Analysis of school self-evaluation produced to meet CDIP requirements
2. School self-report on a scale enumerating the critical aspects of school-based data collection and analysis and subsequent program adaptation based on analysis
3. Requirement that school improvement plans contain evidence of analysis of student performance data.

**III. How Currently Assessed**

School improvement plans are the only places where such information is readily evident. All districts must produce improvement plans based on student performance data. Schools conduct self-evaluations that are also supposed to address student performance. But only the district plans are reported to the state. Title I schools are required by federal law to produce detailed data-based improvement plans.

**IV. Current Capacity to Assess**

School improvement plans provide a potential source of information on the degree to which schools analyze data as the basis for improvement efforts and the ways in which the analysis influences improvement targets and strategies.

## V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator

The idea that a school should collect and analyze data on student performance as the basis for changes in its instructional program is a new notion to many schools. Therefore, it cannot be assumed that Prototype Schools currently make extensive use of data on student performance. Elementary schools have shown considerable more activity in this arena than secondary schools, in part due to the greater ease of gathering data on basic literacy and numeracy. The collection of data is a key prerequisite to planning effective instructional programs and should be considered to be tightly linked with that Quality Indicator as well.

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**Quality Indicator:** *Teacher professional development program focused on improving student learning*

**Criteria:**

1. Evidence of a systematic, long-term professional development plan linked directly to improvement in student performance
2. Evidence of teacher participation in and ownership of the professional development plan
3. Evidence of changes in instructional programs and classroom teaching practices as a direct result of the professional development program

**I. Potential to Account for Variance in Student Learning**

Moderate to high. Recent evidence has confirmed the importance of professional development in an overall program of school effectiveness. However, the specifics of effective professional development are still subject to much debate and discussion and appear to be highly contextual. Even an effective program of professional development is still one level removed from classroom teaching and student achievement. When professional development ties directly to changes in teaching it has the greatest potential to have an effect on learning.

**II. Potential Means to Assess**

1. The Consolidated District Improvement Plan process requires action plans with “sustained, intensive and/or continuous short-term and long-term staff development
2. The structure, goals, and content of school-level professional development programs can be analyzed against existing effectiveness criteria.
3. The specific ways each teacher engages in professional development can be analyzed based on the teacher’s professional development plan and the relationship of the plan to school goals, state standards, and generally accepted principles of instructional improvement.

### **III. How Currently Assessed**

Information on staff development is contained in district plans, but is not systematically aggregated or analyzed, nor is such data at the level of the individual school. Principals are required to establish professional growth goals with individual teachers. These are not reviewed externally nor are they generally aggregated into a school-level professional development plan.

### **IV. Current Capacity to Assess**

The CDIP plans provide a potential data source, but only if all schools report staff development in similar ways.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

The Prototype Schools have resources allocated to them for professional development so it may be assumed they are able to offer more extensive professional development opportunities than “baseline” schools. The quality of the program is not guaranteed automatically. The current range in quality of such programs is highly variable. Many schools have not yet learned how to organize and implement quality professional development and often resort to one-shot programs or workshop approaches, methods that do not sustain a direction and focus over time in ways that lead to improved teaching practices.

This is one other area where the challenges faced by today’s high schools with their departmental organizational structures and the multiple demands on the time of many faculty create extra difficulties executing an effective professional development program.

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**Quality Indicator: Student “connectedness” to school and engagement in academic and extracurricular programs**

**Criteria:**

1. School size or organizational structure is appropriate to ensure student interactions occur at a human and manageable scale and that all students are known by the adults in the school
2. The opportunities for student involvement are numerous and varied enough to ensure something is available for all students and that involvement is not restricted to a particular group of students

3. Award and recognition programs do not result in the same students being selected for multiple awards and recognition
4. The school has mechanisms and structures to identify and engage students who frequently “fall through the cracks” and drift through school in anonymity until they drop out
5. Alternative education programs are not one-way streets that funnel students out of the school, but are connected to the broader school in ways that encourage participation by all students in the general school community

#### **I. Potential to Account for Variance in Student Learning**

Moderate. Engagement has been shown to be an important variable in explaining the behavior of certain groups of students. School size has been demonstrated to be associated with a range of effects, particularly at the secondary level, including student dropout rates, student engagement, and student achievement. Some students can function effectively with only minimal connection with the school, but most students need to feel they are part of a school community in order to learn effectively.

#### **II. Potential Means to Assess**

1. School enrollment data
2. School reports on structure of learning communities within school (e.g., school-within-a-school, houses, community-based programs)
3. Engagement measures including student participation rates in extra curricular activities, percent of students receiving awards or recognition, number of students participating in community-based programs
4. Student perception surveys

#### **III. How Currently Assessed**

This Quality Indicator is not assessed in any systematic way. Data on school size are kept by ODE, but information on the configuration of learning communities within schools and student engagement rates is not compiled by any agency.

#### **IV. Current Capacity to Assess**

The size of schools is readily apparent. However, the ways in which they are organized to deliver instruction is not as self-evident. Large schools sometimes employ strategies such as “houses” or “schools-within-schools” to achieve some of the benefits of smallness with larger populations. The reporting requirements would be modest related to school size, but more complex regarding student engagement.

## V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator

The literature suggests that it is reasonable to assume that the Prototype Elementary School is doing a reasonably good job ensuring students are connected, although it is not unreasonable to assume that perhaps 20 percent of students are not connected, an alarmingly high number.

Many middle schools have made sustained efforts to reorganize themselves into structures that cause more students to connect; others retain the traditional junior high school structure. It may be assumed the Prototype Middle School fall between elementary and high schools in terms of

High schools still remain the most challenging area, and the Prototype High School is assumed to have a relatively traditional organizational structure. If this structure were altered, along with certain practices, it would be possible for involvement to be assumed to be higher.

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## **Quality Indicator: Teacher efficacy**

### **Criteria:**

1. Teachers believe all students are capable of making substantial learning gains each year
2. Teachers act in ways that suggest they believe they have a direct effect on student learning and student academic success
3. The school is organized in a way that maximizes teacher ability to have a positive effect on student learning
4. While acknowledging the challenges they and their students face from various external factors, teachers continue to take primary responsibility for ensuring that students learn in school

### **I. Potential to Account for Variance in Student Learning**

High. Teacher efficacy is the sense teachers have that they are able to have an effect on student learning. If teachers believe they are powerless to enable students to learn, in almost all cases students do not learn. If teachers are convinced they are capable of enabling students to learn, they act very differently and make different decisions than when they feel they are unable to be successful. It is for this reason that teacher efficacy can be associated closely with student learning.

### **II. Potential Means to Assess**

1. A survey instrument is the most common means to assess teacher perceptions of efficacy. This information can also be obtained through focus group or interview techniques. It is possible to ascertain via observation in certain key situations what teachers actually believe about their ability to enable students to learn.

2. Principal perceptions can be a valuable source of data to triangulate against teacher perceptions.
3. Teacher behaviors in the classroom that indicate the teacher believes all students are capable of making consistent learning gains regardless of the student's background, race, or socioeconomic group
4. An analysis of the organizational structure of the school for evidence that the school is organized in ways that make teachers more effective
5. Participant observation of the informal interactions and conversations of educators to determine educator explanations of causality of student learning

### **III. How Currently Assessed**

This Indicator is not currently assessed in any systematic fashion, although many school administrators are highly attuned, if only at an intuitive level, to the level of perceived teacher efficacy.

### **IV. Current Capacity to Assess**

This type of information would need to be collected via a standardized instrument or set of protocols.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

Elementary School: 6

Middle School: 5

High School: 4

Teachers face many challenges, particularly over the past decade, that have affected their sense of efficacy negatively. The Prototype Schools reflect this reality. Regardless of the actual effects of funding cuts and changes in student demographics, many teachers feel they are less able to be effective than they once were. In part this is a reflection of school structures that have changed little even as the demands on and expectations for the educational system have changed dramatically. This tension is reflected in the mid-range sense of efficacy that teachers in the Prototype Schools are assumed to have.

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### **Quality Indicator: Organizational adaptability**

#### **Criteria:**

1. Procedures exist to review and update policies frequently
2. Evidence exists of mechanisms to stimulate organizational renewal including task forces, study groups, ad hoc committees, external visitation teams
3. A formal planning process exists that takes into account internal and external data on organizational functioning, purpose, and potential opportunities and challenges
4. Evidence exists of a culture within the school that believes in identifying new challenges instead of recounting old accomplishments
5. The school does not rely on public relations as a tool to control community desire for change, but as a tool to stimulate the demand for change

#### **I. Potential to Account for Variance in Student Learning**

Moderate. Since this Indicator is one level removed from the classroom, it will be more difficult to measure its effects on learning. Measurement of this Indicator is even more challenging, since if an organization is adaptable it

will often change what and how it teaches, making it more difficult to assess.

## **II. Potential Means to Assess**

1. Institutional self-report on changes in procedures, structures, programs, activities.
2. Evidence of sustained study or reflection on institutional practice including study groups, task forces, visitation teams, planning teams, grant writing teams.
3. Evidence of contacts with outside organizations including businesses, governmental and social service agencies, foundations
4. Evidence of pilot programs, grants, partnerships, experimental programs,
5. Evidence of evaluation of such initiatives and means to institutionalize them or learn implications for best practice from them.
6. Evidence of communications programs that raise issues and identify areas in need of improvement

## **III. How Currently Assessed**

Researchers use various forms of interview and document analysis to ascertain organizational adaptability, but schools do little of a formal nature in this area currently.

## **IV. Current Capacity to Assess**

This sort of self-evaluation could be built into the ODE accountability system at several points where schools must engage in self-evaluation in preparation for the school review.

## **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

Schools by their very nature are not terribly adaptive. However, it has been proven that the structure and nature of elementary schools enable them to be potentially more adaptive than middle and high schools, which have a much tighter linkage to organizational structures that are more difficult to change. At the same time, Oregon schools have shown considerable flexibility in the face of new challenges and it is reasonable to assume the Prototype Schools will be moderately capable of adapting, if with difficulty, to new challenges and demands and to the specifics of education reform.

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**Quality Indicator:** *School district policies that support high expectations, accountability, curriculum alignment, and maximum allocation of resources to teaching/learning*

**Criteria:**

1. Evidence of district mission focused on high achievement for all students
2. Absence of policies that appear to make assumptions that certain groups of students are less capable of learning
3. Evidence of regular review processes to ensure alignment is occurring between grade levels and schools and articulation is occurring across schools
4. Budgeting process that ensures resources are focused on student learning as the first and highest priority
5. Accountability policies that use data to identify under-performing schools, to diagnose causes for under-performance, and to ensure improvement occurs at such schools
6. Evidence that the performance of individuals in leadership positions is reviewed on a regular basis and that movements are made when appropriate to ensure a quality leader is present in every key leadership role

**I. Potential to Account for Variance in Student Learning**

Moderate. District policies tend to set the context within which schools function. These policies establish the culture of the district. That culture may encourage initiative and innovation by schools to solve educational problems or standardized responses and programs regardless of educational challenges faced by individual schools. The district may hold schools accountable to improve student learning or may concern itself only with management issues.

**II. Potential Means to Assess**

1. Analysis of policies in areas directly related to ability of schools to enhance student learning;
2. Establishing high goals for student achievement
3. Holding schools accountable for improving student achievement
4. Aligning curriculum in ways that ensured students have the opportunity to learn material necessary to meet standards

5. Allocating resources in ways that helped schools achieve goals and improve achievement

### **III. How Currently Assessed**

Local boards of education are entirely responsible for district policy. The state reviews these policies during School Reviews, and groups such as Oregon School Boards Association and Confederation of Oregon School Administrators periodically poll districts regarding particular policies or develop examples or guides for the development of new policies.

### **IV. Current Capacity to Assess**

Analysis of district policies is a manageable task, given the parameters for analysis. This analysis could be done either by districts or an external authority. Given that many district policy manuals are now online, this type of analysis could be accomplished with minimal effect on districts.

### **V. Estimated Level of Functioning of Prototype School Relative to Quality Indicator**

It is difficult to generalize about school districts, but the Prototype Schools are assumed to exist in a district that is at least reasonably supportive of school improvement and has instituted policies with this aim in mind.

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## **Reasons for collecting data on Quality Indicators**

The reason for collecting information on the Quality Indicators is much the same as the reasons for a periodic physical examination; it is a process that provides a baseline state against which to evaluate future states of health as well as diagnostic information that can be used immediately to compare individual health to the larger population and to standards of health.

The Quality Indicators serve a similar purpose in the educational policy arena. They document a baseline state of functioning for Oregon schools as well as indicate the overall health of the system and provide comparative diagnostic data to each school that collects data on the Quality Indicators in any given year.

Such comparisons are impossible currently. Schools can only look to educational process measures like class size or per-pupil expenditures or student performance measures, generally in the form of the state assessment system. While these measures are useful, they do not tell the whole story. They need to be supplemented with information on organizational functioning, important

educational practices, and perceptions of key stakeholders. These measures provide a broader, more comprehensive view of the state of functioning of Oregon schools.

The state has a legitimate right to know that the funds it expends on public education are being utilized in an efficient and effective fashion. Measures exist in other aspects of the school system, such as purchasing or construction, to ensure efficiency (or at least to create measures against which a district's performance can be judged). However, educational processes (teaching and learning) prove more challenging to assess. The only measures now used widely are student test scores. These offer one measure of functioning. But they do not suggest what must be changed in order to improve performance. The Quality Indicators serve to define, in the context of prototype schools, an effective, efficient, quality educational program, one that can be judged in more sophisticated terms than student test scores alone.

The challenge lies in specifying the elements upon which to collect data and, more importantly, the means by which to collect the desired information. With regard to the burden placed on districts and schools to report information, it is worth noting that ODE current requires extensive information in School Level Fall Report, which may contain some possible sources of the information needed to define many of the Quality Indicators, and might be reworked to provide additional information.

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### **Challenge in quantifying the effect of Quality Indicators on performance assumed for the Prototype Schools**

Educational research has not yet progressed to the point where it is possible to explain all the variance in student learning, and it is unlikely ever to reach this point (unless physiologically-based or genetically-determined forms of learning are eventually identified and methods derived to "teach" using such knowledge). Human beings vary tremendously in the ways in which they approach learning situations. This is consistent with the variation present in the human population, and is probably an evolutionary adaptation that enabled humans to take advantage of a wide range of environments and opportunities. School learning is by definition more standardized, arbitrarily favoring certain aptitudes and attitudes over others that might be equally valid in other settings.

However, in the context of social science research, this variance makes it difficult to account for all the factors that affect learning. Researchers have been able to identify a number of factors that seem to be dominant in explaining learning in the context of formal education and public schools. The most-studied areas are instructional methods, the conditions of learning within classrooms, and various organizational conditions. It seems likely that research can explain perhaps half

of the variance in performance when the results from all major research findings are combined.

While half the variance is highly significant, it still leaves much unexplained. This is challenging for a model that seeks to link instructional methods, conditions of learning and organizational conditions with likely school performance. Further complicating this task is the strong correlation between socioeconomic status of families and the performance of students.

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### **Ways of determining improvement rate associated with prototypes (and, by extension, for all schools)**

Within the constraints just noted, several possible strategies for setting the projected improvement rates for the Oregon school system (and, by implication for individual schools) can be reasonably considered.

There are several basic options for setting the projected rate of improvement that can be expected based on various prototype models and their associated funding and Quality Indicators.

#### **Option 1: Research-based assumptions**

This approach was used in the original QEM report. It combined the elements and components with the assumptions about the Quality Indicators and generated an assumed success rate for all the students in the three prototype schools. For example, based on the full implementation model, it was assumed that 90 percent of students would meet the state standards. The model was silent on how long actual schools might be expected to take to reach these levels.

This approach has the advantage of establishing a very direct relationship between the inputs (elements and components, and Quality Indicators assumptions), and the outputs (performance on Oregon state assessments). It is silent on questions of process (curriculum, instruction, program organization), leaving these to local school districts.

The research-based assumptions approach, however, is vulnerable to the charge that we do not know with enough precision at this point what the relationship is between the inputs and outputs. In particular, we do not know with certainty how to weight the various input, or contextual, factors. Is one factor, such as teacher quality or educational leadership, disproportionately more important than the others, or are they all essentially equal? Can these factors really be broken out into discrete elements, each assigned a value in its effect on student learning, or can they only be viewed in the aggregate? If aggregated, how much of the variance in student learning do they explain?

It seems reasonable, based on existing research, to assume all the input variables identified and defined in the QEM might explain approximately half the variance in student learning in the aggregate. The other half of the variance is due to the complexity of human behavior in organizational settings and other influences, such as a student's psychological orientation toward learning. It is possible to account for socioeconomic differences and their effects on learning and to calibrate the model so that the prototype schools do include this dimension of variance in their calculation of the predicted success level each prototype school should generate based on any given level of funding, as defined by the elements and components, and of functioning, as defined by the Quality Indicators

However, for this approach to work well, detailed information is needed about the current state of organizational functioning of Oregon schools. Without some benchmark point at which information about the state of the Quality Indicators in a representative set of Oregon schools has been collected, it is difficult to factor in the effects of changes in the Quality Indicators. Therefore, this approach requires definition of common terms for the Quality Indicators and collection of common data for each Intangible. As noted in a previous draft, this information need not be collected from every Oregon school every year, but a rolling average derived from data collection at perhaps 20 percent of schools annually would provide enough information for this approach to be feasible. The performance at those schools could then be calibrated to their organizational functioning as gauged by the data collected on the Quality Indicators and the fidelity between their program and the prototype schools. From there, generalizations about the relationship between funding and expected performance could be established with progressively greater precision.

For the coming biennium, any proposed performance figure based on this methodology will be by necessity very approximate. However, given that any method will have a rather large standard measurement error initially, this approach should not necessarily be excluded from consideration.

One way to refine this approach in the future is to identify a sample of schools deemed to be representative of the prototype schools and to be deemed to be close in important respects to assumptions contained in the Quality Indicators. This will require consultation with school officials and a case study approach during this first planning phase, but if a representative sampling of such schools can be located, it is feasible to judge their previous performance relative to the state assessments and extrapolate from this with some weight given to the multiplier effect that extra resources can have in a well-functioning system.

### **Option 2: Trend extrapolation**

A very reasonable way to begin to forecast the improvement levels associated with various levels of funding is to establish the trend lines for assessment

results, primarily but not exclusively on English and math multiple choice tests, over the past four years, and extend this line into the future with an adjustment consistent with the amount of new resources added to the system.

This appears to assume that more money equals better performance. But in fact it assumes that the programs demonstrated by the prototype schools and the assumptions contained in the Quality Indicators will lead to improved performance. These are two fundamentally different assumptions and must not be confused.

Furthermore, improvement must be considered at all three levels of schooling. Elementary schools have exhibited much greater improvement than middle schools, which have done better than high schools, which have shown little improvement over the past four years on the measures being used here. Therefore, it would be necessary to adjust elementary expectations somewhat in the conservative direction, while being sure to establish projected improvement rates for middle and high schools that were justified based on the prototype schools more than the existing trends. While acknowledging the difficulty of changing high schools, virtually no improvement will be assumed if improvement rates from the past four years are simply extrapolated into the future two years.

### **Option 3: Educator -identified improvement goals**

A third option is to have a representative sampling of educators indicate the amount of improvement they expect each Prototype School to achieve. This method has the advantage of having high credibility and being grounded in the realities of educator judgment. A focus group methodology that selected among a range of educators could yield a reasonable range of improvement that could be expected from the Prototype Schools.

### **Option 4: Combination of options 1-3**

A final logical option is to combine or at the least to compare the predictions of the three previous options to see the degree of congruence among them, then to establish a “best guess” based on the sources in combination. This method is more labor-intensive, but has the advantage of not anointing any one method as the chosen one to the exclusion of the other two. At this early stage of development, it may be prudent to move forward with several methods for determining the relationship between prototype schools and predicted performance and then to see what occurs subsequently. As data on student performance are gathered over the following two years, it will be possible to ascertain what the actual improvement rate turns out to be, and which method or methods came the closest to predicting it. Furthermore, it is possible then to put better mechanisms in place to gather information on the Quality Indicators at the

school site level, which then enables further investigation of the role of Quality Indicators in predicting school performance.